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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,553	11/26/2003	Petrus Gijbertus Maria Centen	PF020158	9740

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EXAMINER

BEMBEN, RICHARD M

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/723,553

Applicant(s)

MARIA CENTEN ET AL.

Examiner

RICHARD M. BEMBEN

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's argument, that U.S. Patent No. 6,084,632 (issued to Inuiya et al.) does not disclose controlling the magnitude of a driving signal, filed 15 February 2008, with respect to the rejection(s) of claim(s) 1-7 and 9-14 have been fully considered and is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-5 and 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,958,776 issued to Mendis et al., hereinafter "Mendis".**

Regarding **claim 1**, Mendis discloses an image pickup device comprising:

an image sensor generating an image signal (c. 4, ll. 21-27; Figure 4);

driving means generating a driving signal for the image sensor (c. 4, ll. 24-27;

Figure 4, VDD and VR);

an amplifier for amplifying the image signal with a given gain (c. 4, ll. 14-20, "column readout amplifier);

adjusting means to set the gain (c. 4, ll. 14-62, changing the gain);

control means for controlling the amplitude of the driving signal (c. 3, l. 56 - c. 3, l. 62; if hard reset is chosen reset drain is driven at VR which is less than VDD-Vt; if soft reset is chosen reset drain is driven at VDD);

wherein the control means is adapted to control a maximum output signal of the image sensor depending on the set gain of the amplifier by accordingly controlling the amplitude of the driving signal (c. 3, l. 56 - c. 3, l. 62; if hard reset is chosen reset drain is driven at VR which is less than VDD-Vt; if soft reset is chosen reset drain is driven at VDD; the amplifier gain setting is used to determine whether to use a hard reset or a soft reset).

Regarding **claims 2-5**, refer to the rejection of claim 1 and it is inherent that there is a timing generator and a microcontroller which clock signals to the imaging device, refer to Figure 2 to show clocked pulses that drive the imaging device.

Regarding **claim 9**, Mendis discloses an image pickup device comprising:

an image sensor generating an image signal (c. 4, ll. 21-27; Figure 4);

driving means generating a signal with pulses for driving the image sensor (c. 4, ll. 24-27; Figure 4, VDD and VR; also refer to Figure 2 for an example of clocked pulses);

an amplifier for amplifying the image signal with a given gain (c. 4, ll. 14-20, "column readout amplifier);

adjusting means to set the gain (c. 4, ll. 14-62, changing the gain);

control means for controlling the amplitude of the driving signal (c. 3, l. 56 - c. 3, l. 62; if hard reset is chosen reset drain is driven at VR which is less than VDD-Vt; if soft reset is chosen reset drain is driven at VDD);

wherein the control means for setting the pulse height wherein the control means is adapted to control a maximum output signal of the image sensor depending on the set gain of the amplifier by accordingly controlling the height of the pulses (c. 3, l. 56 - c. 3, l. 62; if hard reset is chosen reset drain is driven at VR which is less than VDD-Vt; if soft reset is chosen reset drain is driven at VDD; the amplifier gain setting is used to determine whether to use a hard reset or a soft reset).

Regarding **claim 10**, refer to the rejection of claim 9 and it is inherent that the image sensor is driven with clock signals, refer to Figure 2 to show clocked pulses that drive the imaging device.

Regarding **claim 11**, refer to the rejection of claim 9 and Mendis further discloses that the height of the pulses is reduced with increasing gain (refer to Figure 4: if Gain < x, VDD is used; if Gain >= x, VR (which is less than VDD-Vt) is used).

Regarding **claim 12**, refer to the rejection of claim 1 and Mendis further discloses that the amplitude of the driving signal is reduced with increasing gain (refer to Figure 4: if $\text{Gain} < x$, VDD is used; if $\text{Gain} \geq x$, VR (which is less than $\text{VDD}-V_t$) is used).

Claim 13 is a method claim corresponding to apparatus claim 1. Therefore, claim 13 is analyzed and rejected as previously discussed with respect to claim 1.

Claim 14 is a method claim corresponding to apparatus claim 12. Therefore, claim 14 is analyzed and rejected as previously discussed with respect to claim 12.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mendis in view of U.S. Patent No. 4,683,498 issued to Topper.**

Regarding **claim 7**, Mendis discloses an image pickup device comprising an image sensor and driving means generating a driving signal for the image sensor (refer to the rejection of claim 1 above). However, Mendis does not disclose that the image pickup device comprises two further image sensors.

Topper discloses an image pickup device comprising three image sensors (c. 3, ll. 13-28; Fig.1, solid-state imagers 14, 16, and 18) and driving means generating a driving signal for the image sensors (c. 3, ll. 13-28; Fig.1, sync generator 20, master clock 22, and imager clock generator 24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an image pickup device comprising three image sensors as disclosed by Topper in the image pickup device disclosed by Mendis in order to have an individual image sensor for each of the R, G, and B image signals which are typically captured by digital cameras.

Allowable Subject Matter

6. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 6 is objected to because it would not be obvious to replace the CMOS image sensor disclosed in the Mendis patent with CCD technology since CMOS and CCD sensors are designed and operate differently.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD M. BEMBEN whose telephone number is (571)272-7634. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard M Bemben
Examiner, Art Unit 2622

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622